

714

Notice of Allowability

Application No.

10/760,149

Examiner

Juan D. Valentin II

Applicant(s)

MIEHER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE 08/06/2007.
2. ☒ The allowed claim(s) is/are 1-33.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|--|--|

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-33 are allowed over prior art of record.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, the prior art fails to disclose or make obvious “controlling said one or more process parameters based on said comparison, wherein the differences between process responses are attributable at least in part to the differences between the different values for the first grating parameters and wherein the different values for the first grating parameters are selected so as to cause different process responses under the same process parameters” and in combination with the other recited limitations of claim 1. Claims 2-13 are allowed by virtue of dependency on the allowed claim 1.

Regarding claim 14, the prior art fails to disclose or make obvious “extracting information about one or more process parameters of the given set of process parameters based on said comparison, wherein the first grating structure and the second grating structure each has a first grating parameter and wherein a first value of the first grating structure's first grating parameter differs from a second value of the second grating structure's first grating parameter and wherein the difference between the first process response and the second process response is attributable at least in part to the difference between the first value and the second value” and in combination with the other recited limitations of claim 14. Claim 32 is allowed by virtue of dependency on the allowed claim 15.

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Regarding claim 15, the prior art fails to disclose or make obvious “forming a target group at a plurality of focus settings, the target group containing a plurality of targets with different sensitivities to focus, each target having a first parameter and the plurality of targets having different values for the first parameter, wherein the differences in sensitivities are attributable at least in part to the differences between the different values and wherein the different values are selected so as to cause different process responses under the same process parameters” and in combination with the other recited limitations of claim 15. Claims 16-17 are allowed by virtue of dependency on the allowed claim 15.

Regarding claim 18, the prior art fails to disclose or make obvious “extracting information about one or more process parameters associated with a photolithographic process by analyzing the differences between the different scatterometry signals from the measurable patterns for a given set of process conditions, wherein the differences between the process responses are attributable at least in part to the differences between the different values and wherein the different values are selected so as to cause different process responses under the same process conditions” and in combination with the other recited limitations of claim 18. Claim 33 is allowed by virtue of dependency on the allowed claim 18.

Regarding claim 19, the prior art fails to disclose or make obvious "the scatterometry targets with different process responses producing different scatterometry signals, the differences in the scatterometry signals being attributable at least in part to one or more process parameters used to create the scatterometry targets, wherein the differences between the process responses is attributable at least in part to the differences between the different values and wherein the different values are selected so as to cause different process responses under the same process conditions" and in combination with the other recited limitations of claim 19. Claims 20-31 are allowed by virtue of dependency on the allowed claim 19.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

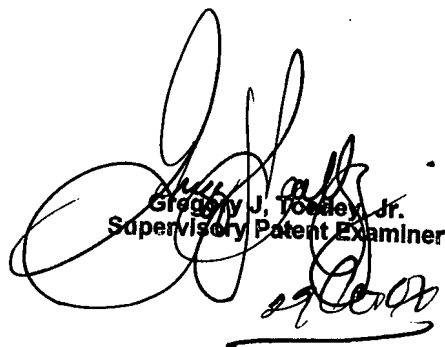
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan D. Valentin II whose telephone number is (571) 272-2433. The examiner can normally be reached on Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JDVII/
Juan D Valentin II
Examiner 2877
JDV
October 26, 2007


Gregory J. Tolson, Jr.
Supervisory Patent Examiner